

Attorney Docket # 4925-115PUS

Serial No. 09/856,440
Amdt. dated December 2, 2004
Reply to Office Action dated November 18, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) A method for network management in a cellular telecommunication system supporting macro diversity connections, wherein, in a macro diversity connection, each cell in an active set of base station cells maintains a radio connection with a mobile terminal, the mobile terminal divides one signal to transmit on each of the radio connections, and the cellular system receives and combines the received signals to produce the original signal, comprising the steps of:

assigning priority levels to the cells of the active set of the macro diversity connection,

wherein said step of assigning comprises the step of:

classifying each cell in the active set as either being in a serving cell set or not;

and

selecting, at least partly based on the priority levels, a master cell from the serving cell set,

wherein said master cell is to be used for at least one of connection management and

location procedures between the cellular system and the mobile station.

2-3. (Cancelled)

4. (Previously Presented) The method of claim 1, wherein said step of selection is performed by a network of the cellular telecommunications system.

5. (Previously Presented) The method of claim 4, wherein the network performs the selection of the master cell as a response to a message received from the mobile station, which message does not contain an indication of a master cell.

6. (Previously Presented) The method of claim 1, wherein said selection is performed according to a predefined rule.

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7. (Previously Presented) The method of claim 6, wherein the predefined rule is that the cell of the serving cell set which has been in the active set for the longest time is selected to be the master cell.

8. (Previously Presented) The method of claim 1, wherein said step of selection is performed by the mobile station.

9. (Previously Presented) The method of claim 8, wherein the cell selected by the mobile station is indicated to a network of the cellular telecommunications system in a message sent by the mobile station.

10. (Previously Presented) The method of claim 8, further comprising the steps of:
requesting, by the mobile station, location information from the network; and
receiving, by the mobile station, a response to the request from the network;
wherein the selection of the master cell is performed at least partly based on said response.

11. (Previously Presented) The method of claim 8, wherein said step of selection is performed at least partly on the basis of information about localized services of the network stored in the mobile station.

12. (Previously Presented) The method of claim 1, further comprising the step of:
changing the priority levels of the cells in the active set as a response to serving RNC relocation.

13. (Previously Presented) The method of claim 1, wherein, as a response to serving RNC relocation, said method further comprises the steps of:
designating the cells of the active set which had been in the serving cell set as being outside the serving cell set; and
designating the cells of the active set which had been designated as outside the serving cell set as being in the serving cell set.

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14. (Previously Presented) The method of claim 1, wherein the step of classifying each cell in the active set as either being in a serving cell set or not comprises the steps of:

designating those cells of the active set as being in the serving cell set which are listed in a message received from a network of the cellular telecommunications system informing the mobile station about a serving RNC relocation; and
designating other cells of the active set as being outside the serving cell set.

15. (Previously Presented) The method of claim 1, wherein the cellular telecommunication system comprises a cellular network, a first network element for controlling circuit switched connections, and a second network element for controlling packet switched connections, said method further comprising the step of:

performing, when the mobile station has an active connection to the first network element and no active connections to the second network element, a location update to said second network element at least partly as a response to a change in said serving cell set.

16. (Previously Presented) The method of claim 15, wherein said location update is performed at least partly as a response to the changing of all cells in the serving cell set.

17. (Previously Presented) The method of claim 15, wherein said location update is performed at least partly as a response to removing of the last of those cells from the serving cell set which were in the serving cell set when a previous location update was performed.

18. (Previously Presented) The method of claim 15, further comprising the steps of:

requesting, by the mobile station, location information from the network;
receiving, by the mobile station, a response to the request from the network; and
determining, by the mobile station, whether or not to perform a location update to said second network element at least partly based on said response.

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19. (Previously Presented) The method of claim 1, wherein the cellular telecommunication system comprises a first network element for controlling circuit switched connections and a second network element for controlling packet switched connections, said method further comprising the step of:

performing, when the mobile station has an active connection to the first network element and no active connections to the second network element, a location update to said first network element at least partly as a response to a change in said serving cell set.

20. (Previously Presented) A mobile station for a cellular telecommunication system comprising a cellular network, comprising:

means for communicating using a macro diversity connection in which the mobile station communicates with the cellular network via a plurality of radio connections, each cell in an active set of base station cells maintaining at least one of said radio connections, said mobile terminal dividing one signal to transmit on each of said radio connections, and said cellular system receiving and combining the received signals to produce the original signal, said means for communicating comprising:

receiving means arranged to receive information for classification of each cell in the active set as either being in a serving cell set or not; and

selecting means arranged to select a master cell from the serving cell set, wherein said master cell is to be used for at least one of connection management and location procedures between the cellular system and the mobile station.

21. (Previously Presented) The mobile station of claim 20, further comprising:

means for indicating the selected master cell to the network.

22. (Previously Presented) A system in a cellular telecommunication system, wherein, in a macro diversity connection, each cell in an active set of base station cells maintains a radio connection with a mobile terminal, the mobile terminal divides one signal to transmit on each of the radio connections, and the cellular system receives and combines the received signals to produce the original signal, comprising:

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a transmitter arranged to transmit to a mobile station information for assigning a priority order to the plurality of cells in the active set, wherein assigning comprises classifying each cell in the active set as either being in a serving cell set or not; and
a receiver arranged to receive from said mobile station information specifying a master cell selected from the serving cell set, wherein said master cell is to be used for at least one of connection management and location procedures between the mobile station and a core network of the cellular telecommunication system.

23. (Previously Presented) The system of claim 22, wherein the system is located in a radio access network of the cellular telecommunication system.

24. (Previously Presented) The system of claim 23, wherein the system is located in the radio network controller of said radio access network.

25. (Currently Amended) The method of claim 1, wherein the serving cell set comprises those cells under the control of a [the] serving radio network controller (SRNC) which receives the signals from the mobile station and combines them to produce the original signal from the mobile station.

26. (Previously Presented) The method of claim 1, wherein the connection management procedures for which the master cell is to be used comprises a connection management (CM) service request procedure.

27. (Previously Presented) The method of claim 26, wherein the CM service request procedure comprises a mobile originated (MO) CM service request procedure.

28. (Previously Presented) The method of claim 1, wherein the location procedures for which the master cell is to be used comprises a location updating procedure.

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29. (Previously Presented) The method of claim 1, wherein the at least one of connection management and location procedures for which the master cell is to be used comprises a paging responses through a radio resource control (RRC) connection.